



Putting Worms to Work

Overuse of pesticides is now acknowledged as one of the gravest mistakes of the [Green Revolution](#), launched in the 1970s to dramatically increase food production in the developing world. Pesticides have polluted the environment, poisoned fertile soil, contaminated ground water and damaged human health.

According to [Tata Energy Research](#), 57 per cent of India's land is degraded. But the country, it is estimated, will need more than 45 million tons of grains to meet the country's basic food requirements by 2030. There is little arable land left to cultivate, so it is crucial to develop plants that are more resistant to pests and other diseases.

Two innovations developed at [Patnagar University in Patnagar, India](#) – the home of the first Green Revolution back in the 1970s – are now set to spark a second Green Revolution, eschewing harmful chemicals and instead turning to nature to help.

Drawing on the field of below-ground biodiversity (the study of all the nutrients and life forms in soil), scientists at the university are harnessing the elements within the soil, rather than placing chemicals on the soil.

Naturally occurring bacteria microbes have been isolated in the soil. It has been found that they are effective killers of pathogenic fungi diseases that affect plants. They do this by coiling around the fungi and destroying the cell walls of the pathogen. These naturally occurring bacteria effectively disinfect the soil of diseases, allowing the plant to flourish without the use of chemicals.

Patnagar University has patented this technique and sells the bacteria suspended in 200 gram packets of talcum powder to farmers. These so-called bioinoculants can be sown with the seeds or put in manure that is being spread as fertilizer.

Another natural innovation in this second Green Revolution uses common earthworms to tackle animal manure. There are about 1.3 billion cattle in the world, a billion sheep, a billion pigs, 800 million goats and 17 billion chickens ([Food and Agriculture Organization of the United Nations \[FAO\]](#)). This huge mass of animals produces vast quantities of manure – an estimated 3 billion tons.

In 2006, an FAO report called animal manure “one of the top two of three most significant contributors to the most serious environmental problems at every scale.” Too much of it, and groundwater is contaminated and wetlands destroyed.

India produces millions of tons of livestock manure. Dr. R.J. Sharma, dean of veterinary and animal sciences at the Patnagar university, has found a handy way to rid farms of manure and produce highly useful fertiliser (and extra income!) for agriculture by using epigeic earthworms, or [vermicomposting](#).

Dr Sharma explains that his herd of 750 cows and buffalo on his dairy farm were becoming a big problem: “Previously we had a problem disposing this excreta, and we are dumping freshly in the fields and that fresh dung takes a lot of time to decompose and a lot of problems with insects and foul smelling,” he told the BBC.

The worms degrade the manure while increasing the manure's fertiliser qualities, creating more nitrogen and phosphorus: two essential

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ingredients necessary for growing crops. They were found to be excellent in breaking down manure from cows, horses, sheep and goats.

And Sharma discovered an added benefit to getting rid of this foul-smelling manure: he can make 30,000 rupees a day selling the fertilizer, while he is only making 20,000 rupees a day from selling his milk. And it only takes the earthworms between 40 and 50 days to turn this manure to money.

LINK:

- Digital soil maps: The Food and Agriculture Organization has a CD-ROM soil map available [here](#), and the GlobalSoilMap initiative is building a real-time soil map [here](#).



Cyber Cities: Oasis of Prosperity in the South

The future is arriving in the South even faster than many think: so-called “cyber cities” are being created to become this century’s new Silicon Valleys. Well-known ‘cyber cities’ like India’s Hyderabad and Bangalore have been joined by many other cities across the global South. But two places are set to make big waves with their ambition and drive in 2008: Mauritius and China.

Mauritius, an island in the Indian Ocean strategically close to Africa, better known for tourism and luxury hotels, wants to become the world’s “cyber island”. Armed with the first 3G network in Africa (the third generation of mobile phone technology – offering high-speed internet access and video telephony), Mauritius is moving fast to make good on this advantage. And it is even moving to the next level of mobile-phone speed, something called High-speed Download Packet Access (HSDPA) – allowing even greater quantities of information to be exchanged.

Mauritius joins a select few countries, including Japan and South Korea, at the forefront of access to 3G. Wireless – or wi-fi – computer access is available in three-quarters of the island.

Outside the capital of Port Louis, former sugar cane plantations are being turned into a “cyber city”. The centrepiece of the development is the 12-story Cyber Tower, home to young technology start-ups. The country is also investing heavily in education from primary school to university, to make sure the country’s 1.2 million people are cyber-ready.

Computer novices in remote villages are being visited by a Cyber Caravan with a classroom teaching housewives, children, the unemployed and the disabled basic computing and word processing.

Mauritius built its wealth on tourism, sugar plantations and textile manufacturing. But it is worried that trading arrangements that helped the sugar and textile industries to flourish, will be taken away. So it is focusing on the future: it sees itself as the world centre for disaster recovery computing services for the world’s companies in event of a disaster in their own country that destroys computer networks.

In China, its largest Cyber Park is under construction in Wujin New and High-tech Development Zone of Changzhou. It will be a technology incubator, a research and development centre, and a place for small and medium-sized enterprises to innovate.

What is truly making people stop and think is another far-reaching project: the Beijing Cyber Recreation District (CRD) - China’s most ambitious digital media industry development: a virtual worlds’ initiative with digital media academies and company incubators. It is spread over 100 square kilometres, creating the world’s largest virtual world development. It is already home to more than 200 game and multimedia content producers in western Beijing.

The CRD says its goal is “to create a virtual economy providing infrastructure and platforms through which any business - not just those based in China - can come in and sell their real-world products and services. While a concerted effort will be placed on bringing Chinese businesses and consumers in, the effort is worldwide and open to businesses and consumers from any country.”

The idea is to create a vast virtual economy for commerce where manufacturers can directly connect with billions of customers – bypassing middlemen.

It claims it will be “the world’s one-stop shop for customers and producers.” It will host billions of avatars – or virtual people – surpassing the capability of the very popular [Second Life](#) virtual world game’s 40,000.

LINKS:

- The [Atlas of Ideas](#) is an 18-month study of science and innovation in China, India and Republic of Korea Korea, with a special focus on new opportunities for collaboration with Europe. It is a comprehensive account of the rising tide of Asian innovation. Special reports on China, India and Korea, introducing innovation policy and trends in these countries can be downloaded for free.
- The [Cyber Cities Reader](#): the first book to bring together a vast range of debates and examples of ICT-based city changes.
 - [Entrepreneurship Development Institute of India](#)
- [Innovation China](#): A website linking all stories on the fast-breaking world of Chinese innovation.

Decent and Affordable Housing for the Poor

Urban populations across the South are growing fast: by 2030, some 5 billion people around the world will live in cities. This year will be the first year in which urban dwellers (3.3 billion people) will outnumber rural residents for the first time ([United Nations Population Fund \[UNFPA\]](#)). Africa now has a larger urban population than North America and 25 of the world's fastest growing big cities. Asia and Africa's cities are growing by an incredible 1 million people a week, with 72 per cent of the population in sub-Saharan Africa living in slum conditions.

How well people dwell is integral to their mental and physical health. Most squatters and slum dwellers - a category that includes half the urban population of Africa, a third in Asia and a fourth in Latin America and the Caribbean - live in makeshift homes made from whatever they can get their hands on. These dwellings are usually unsafe and vulnerable to fire, floods, and earthquakes. On top of this, these sprawling slums can be depressingly grim to look at for those living there.

An architect has tackled the problem of how to create inexpensive but durable and beautiful homes for the poor. Iranian-born architect [Nader Khalili](#) has created what he calls 'super adobe' dwellings inspired by traditional Iranian rural homes. The cone-shaped homes are made from sandbags piled one on top of the other in a circular pattern. A basic home is three rooms of 400 square feet, and can be built by five people (with only one needing skills), within weeks. Being sandbags, the homes can easily be dismantled and moved or adapted to meet new space needs.

Khalili first fell in love with the sand adobe homes of Iran in the 1970s. He had been on a journey to find a home design that was both environmentally harmonious and could be built anywhere in the world quickly and cheaply. But while the original Iranian sand adobe is easily destroyed by earthquakes and bad weather, the 'super adobes' are earthquake, hurricane and flood resistant.

They are now being built across the Americas, Asia and Africa.

"You can never build one of these that doesn't look beautiful," he said. "Just as you have never seen an ugly tree or an ugly flower."

LINKS:

- [Builders Without Borders](#): Is an international network of ecological builders who advocate the use of straw, earth and other local, affordable materials in construction.
- [World Hands Project](#): An NGO specialising in simple building techniques for the poor.
- [Tsunami-Safe House](#): A design for Prajnopaya Foundation: a project coordinated by the SENSEable City Laboratory, a new research initiative between the Department of Urban Studies and Planning and the Media Lab at the Massachusetts Institute of Technology in Boston.



Malaysia: UNDP Boosts South-South Exchange in Poverty Reduction

UNDP, in partnership with the Malaysian Government's Economic Planning Unit (EPU), and the Centre for Poverty and Development Studies (CPDS) of the University Malaya, hosted a 10-day workshop titled "Sharing Malaysia's Best Practices in Eradicating Poverty – Pro-poor Rural and Urban Development Policies and Programmes", on 14 November 2007 in Kuala Lumpur.

The workshop served as a platform to share Malaysia's experiences on how it has developed and implemented equitable policies to reduce poverty, particularly through its rural development strategies, while maintaining an open and competitive economy.

More than 15 developing nations from Asia and Africa were represented at the workshop with the aim of fostering bilateral and multilateral South-South Cooperation. Participating in the workshop were international senior officials from central planning agencies and national planning commissions as well as UNDP economists.

In his Welcome Address, Dr. Richard Leete, UNDP Resident Representative said, "UNDP is committed to reducing global poverty. It brings people together from within and between nations, fostering partnerships and sharing ways to promote participation and cooperation.

"UNDP is also working to enlarge the role of the private sector in development. We see immense potential of South-South initiatives in improving economic well-being and accelerating progress towards the Millennium Development Goals (MDGs). "

Apart from classroom seminars which saw speakers from different ministries – including EPU, civil society, the private sector and financial institutions, the participants also visited key national poverty eradication programmes in different parts of Malaysia including the Federal Land Authority (FELDA), the Penang Skills Development Centre, Amanah Ikhtiar Malaysia, Malaysian Agricultural Research and Development Institute (MARDI), and Federal Land Consolidation and Rehabilitation Authority (FELCRA).

Participants were generally impressed by how effective Malaysia's poverty eradication programmes have been and hoped to influence their respective government's programmes and policies with the positive lessons learnt from Malaysia as well as other countries during the workshop.

In an email statement, one of the participants, H.E. Simeon Moribah, Deputy Minister, Ministry of Planning and Economic Affairs of Liberia said he found the workshop a "rewarding experience which has opened new avenues for collaboration which my government will soon embark on."

For further information about the workshop, please see: <http://www.undp.org.my>

Window on the World

■ Welcome to the Urban Revolution

by Jeb Brugmann, Publisher: Penguin Canada.

--How rapid growth in urban populations is spurring vast social changes.

Website: www.penguin.ca

■ Decoding the Next Billion Customers and A Road Map to Expanding Financial Inclusion in India

by Boston Consulting Group.

--The publication describes six ways that Bottom of the Pyramid customers are different from other consumer segments and how to market to them.

Website: <http://www.bcg.com>

■ We are like that only: Understanding the Logic of Consumer India

by Rama Bijapurkar, Publisher: Penguin Portfolio.

--Bijapurkar applies his marketing expertise to India's poor but savvy consumers.

Website: www.penguinbooksindia.com

■ The Craftsman

by Richard Sennett.

--Sennett sees the pursuit of quality as the next big thing for economic development.

Website: <http://www.amazon.co.uk>

■ Plants at the Pump: Biofuels, Climate Change, and Sustainability

by Britt Childs and Rob Bradley, Publisher: World Resources Institute.

Website: <http://www.wri.org/publication/plants-at-the-pump#>

■ **Biofuels: Is the Cure Worse than the Disease**

A paper by Richard Doornbosch and Ronald Steenblik, Publisher: OECD.

Website: <http://www.oecd.org/dataoecd/15/46/39348696.pdf>

■ **Executive Guide to Intellectual Property Management in Health and Agricultural Innovation**

Publisher: Centre for Management of Intellectual Property in Health Research and Development

--It promotes intellectual property management for both commercial and humanitarian ends, with tools and strategies.

Website: www.ipHandbook.org

■ **Profitable Business Models and Market Creation in the Context of Deep Poverty: A Strategic View**

by Christian Seelos and Johanna Mair, IESE, published in Academy of Management Perspectives, November 2007.

Upcoming Events

MARCH

■ **Global Forum on Human Resources for Health – Announcement and Call for Papers**

Kampala, Uganda (2-7 March 2008)

--The Global Health Workforce Alliance will convene the first-ever Global Forum on Human Resources for Health.

Email: ghwaforum@who.int

■ **African Women and Youth Conference**

Accra, Ghana (8 March 2008)

--Hosted by the African Women's Charity Organization, the theme is the importance of self-reliance. The conference is part of a wider campaign to educate, mobilize and organize the largest number of African women and youth as possible.

Email: ForAfricanWomen@aol.com

Website: <http://hometown.aol.com/forafricanwomen/myhomepage/index.html>

■ **Partnering for Global Health Forum 2008**

Washington D.C., USA (10-12 March 2008)

--Sponsored by the Bill and Melinda Gates Foundation, the forum is to bring together leaders from the biopharmaceutical industry, academia, the global health community, developed and developing country government officials, international NGOs and the donor community to accelerate the development of medicines for neglected diseases of the developing world.

Email: pghforum@bvgh.org

Website: www.pghforum.org

■ **World Biofuels Markets Congress**

Brussels, Belgium (12-13 March 2008)

--This is Europe's largest world biofuels networking event with over 1,000 attendees. The aim of this event is to assist growth in the world biofuels industry in a timely and efficient manner.

Contact: Annie Ellis, Green Power Conferences

Email: annie.elis@greenpowerconferences.com

Website: www.worldbiofuelsmarkets.com

■ **Social Business and Microeconomic Opportunities for Youth**

Denver, Colorado (12-14 March 2008)

--Organized by Regis University and Friends of Microcredit, the conference is designed as an action space for social entrepreneurs, microfinance practitioners, business leaders, students, and thought influencers who address the issue of poverty with a particular focus on youth.

Keynote speaker: Muhammad Yunus, 2006 Nobel Peace Prize Winner

Contact: Tana Myers

Email: tanamyers@gmail.com

■ **The 2008 Emerging Markets Private Equity Forum**

New York, USA (27-28 March 2008)

--Building on the success of three previous emerging markets events in London, the forum will focus on some of the following themes: emerging markets and the private equity landscape, data trends analysis – looking beyond India and China, managing risk in emerging markets.

Website: <http://www.peimedia.com/emny08>

■ **UNESCO International Conference and Exhibition on Knowledge Parks**

Doha, Qatar (29 March 2008)

--The conference is jointly organized with the "Qatar Foundation" in close cooperation with "Bibliotheca Alexandrina", "Global Knowledge Partnership" and "Oman's Knowledge Oasis". The conference is aimed

at bringing together: policy makers, experts in the fields of knowledge management and innovation\technology parks, representatives of the private sector and donor organizations including development banks, to share views and experiences and to map such experiences for the benefit of developing countries.

Website: <http://portal.unesco.org>

■ **2nd Global Summit on HIV/AIDS, Traditional Medicine and Indigenous Knowledge**

Accra, Ghana (10-14 March 2008)

--Sponsored by the Ghana Ministry of Health, the World Health Organization, UNAIDS Ghana Office, Ghana AIDS Commission and Esperanza Medicines Foundation.

Website: <http://africa-first.com/2hivsummit2008/>

APRIL

■ **Africa: International Conference on African Culture and Development**

Kumasi, Ghana (21-26 April 2008)

--The conference is designed to draw attention to the missing link in the futile attempts to develop the African continent – culture. The conference draws on the 1995 report of the World Commission on Culture and Development, which said “development divorced from its human or cultural context is growth without a soul.”

Website: <http://www.icacd.ccoghana.org/>

■ **Rethinking Poverty: Making Policies Work for Children – Conference and Call for Papers**

--UNICEF and the Graduate Program in International Affairs at the New School will jointly host an international conference to review and mobilise the international agenda on ending child poverty and reducing disparities.

Website: <http://www.crin.org/resources/infodetail.asp?id=15761>

MAY

■ **International Workshop on HIV/AIDS 2008**

Varadero, Cuba (4-9 May 2008)

--Organized by the Cuban Society for Immunology and Latin American Association of Immunology, it will explore latest experiences in HIV/AIDS.

Email: tapanes@ipk.sld.cu or Rolando.tapanes@gmail.com

Website: www.sci.sld.cu/sida/hiv.htm

■ **Fashion Africa 2008**

Nairobi, Kenya (8-11 May 2008)

--The exhibition is the place to discover the latest ideas and attract a whole new audience. FASHION AFRICA will be the international meeting point for fashion designers / companies to showcase their new Fashion and style products, innovations, equipment and concepts from the Fashion Industry.

Website: <http://www.arabianexposition.com/kenfashion.htm>

■ **International Conference on ICT for Development, Education and Training**

Accra, Ghana (28-30 May 2008)

--The 3rd International Conference on ICT for Development, Education and Training is the premier gathering place for all experts and stakeholders engaged or interested in ICT-based projects in Africa.

Website: <http://elearning-africa.com>

JULY

■ **Fifth Pan-Commonwealth Forum on Open Learning**

London, UK (13-17 July 2008)

--Applications are invited for participation in the Forum. It has grown to become one of the world's leading conferences on learning and global development. This year, it will explore how open and distance learning can help achieve international development goals and education for all.

Website: <http://www.pcf5.london.ac.uk/index.asp>

■ **2nd General Assembly and Conference of ACDE**

Lagos, Nigeria (8-11 July 2008)

--Sponsored by the African Council for Distance Education and the National Open University of Nigeria.

Website: <http://nou.du.ng/noun.acde2008/index.htm>

Training Opportunities

ONGOING

■ **Grameen Bank Microcredit Training Programs**

■ System Dynamics-based Development Planning Course

Begen, Norway (31 March – 9 May 2008)

--Millennium Institute's six-week System Dynamics-based Development Planning Course equips participants with the knowledge and skills required to effectively analyze these challenges and determine the best approaches to mitigating them. The course is designed for policy advisors, planning technicians, advocacy and civil society groups, policy research institutions, private foundations, and bilateral development agencies.

Email: ao@millennium-institute.org

Website: www.millennium-institute.org/courses

FELLOWSHIP OPPORTUNITY

■ The Pioneers of Prosperity Grant and Award

--This competition is a partnership between the OTF Group and the John F. Templeton Foundation of the United States, and promotes companies in East Africa by identifying local role models that act as examples of sustainable businesses in their country/region. It is open to businesses from Kenya, Uganda, Tanzania, Burundi and Rwanda.

Five pioneers will receive US \$50,000 to re-invest in their business. It is open to for-profit businesses that provide high wages to their workers and that operate in sustainable ways.

Website: [Pioneers of Prosperity](#)

■ African Writers Fund

--Together with the Ford Foundation, the Fund supports the work of independent creative writers living on the continent. The Fund recognizes the vital role that poets and novelists play in Africa by anticipating and reflecting the cultural, economic and political forces that continuously shape and reshape societies.

Website: <http://www.trustafrica.org>

■ Joint NAM S&T Centre - ICCS Fellowship Programme

--Centre for Science and Technology of the Non-Aligned and Other Developing Countries (NAM S&T Centre) and International Center for Chemical Sciences (ICCS), (H.E.J. Research Institute of Chemistry and Dr. Panjwani Center for Molecular Medicine and Drug Research), University of Karachi, Karachi, Pakistan

Email: namstct@vsnl.com;

namstct@bol.net.in;

apknam@gmail.com;

Website: <http://www.namstct.org/>

■ Oxford Said Business School Youth Business Development Competition

--Open to youth between 16 and 21 across the world, the competition is run by students at Oxford University to promote social enterprise. A prize fund of £2,000 in seed capital is up for grabs. It calls itself the 'world's first global youth development competition'.

Click [here](#) for more information

■ US\$250,000 for Best Lab Design

--AMD and Architecture for Humanity have announced a prize of \$250 000 for the best design for a computer lab that can be adapted and implemented in third-world countries.

The Open Architecture Prize is the largest prize in the field of architecture and is designed to be a multi-year program that will draw competition from design teams around the world.

Website: <http://www.openarchitecturenetwork.org/>

■ PhD Plant Breeding Scholarships at the University of Ghana

The [University of Ghana](#) has been awarded a project support grant by the [Alliance for a Green Revolution](#) in Africa (a joint venture between the Bill and Melinda Gates Foundation and the Rockefeller Foundation, for the establishment of a West African Centre for Crop Improvement (WACCI). This is available to scientists working at NARIs, universities and international centres in West Africa. Women scientists are especially encouraged to apply for a fellowship under this programme.

Website: <http://www.acci.org.za>

■ Genesis: India's Premier Social Entrepreneurship Competition

--A social entrepreneurship competition aiming to bring together social entrepreneurs, students, NGOs, innovators, incubators, corporations and financiers and encourage them to come up with innovative ideas which are socially relevant and feasible.

Website: <http://genesis.iitm.ac.in/>

■ **Echoing Green: Social Entrepreneurs Fund**

--They are looking for social entrepreneurs developing new solutions to social problems. They are accepting applications for their 2008 fellowships (two-year funding of up to US \$90,000 for 20 entrepreneurs).

Website: <http://www.echoinggreen.org/>

■ **2008 Sustainable Banking Awards**

--The Financial Times, in partnership with IFC, the private sector arm of the World Bank Group, today launched the 2008 edition of the FT Sustainable Banking Awards, the leading awards for triple bottom line banking.

Two new categories - Banking at the Bottom of the Pyramid, and Sustainable Investor of the Year - have been added to the ground-breaking programme.

The awards, now in their third year, were created by the FT and IFC to recognise banks that have shown leadership and innovation in integrating social, environmental and corporate governance objectives into their operations.

Website: <http://www.ifc.org>

■ **Challenge InnoCentive**

--A challenge to the world's inventors to find solutions to real scientific and technological problems affecting the poor and vulnerable.

Website: <http://www.innocentive.com/>

You can read more about the challenges here: <http://www.rockfound.org>

■ **Global Social Benefit Incubator: A US \$20,000 Bottom of the Pyramid Scholarship**

--Offered by Santa Clara University's Global Social Benefit Incubator, it selects 15 to 20 enterprises from developing countries and provides an eight-month mentoring process. This ends with a 10-day process in Santa Clara, where entrepreneurs work with their mentors.

Website: www.socialedge.org

Job Opportunities

■ [Africa Recruit Job Compendium](#)

■ [Africa Union](#)

■ [CARE](#)

■ [Christian Children's Fund](#)

■ [ECOWAS](#)

■ [International Crisis Group](#)

■ [International Medical Corps](#)

■ [International Rescue Committee](#)

■ [Internews](#)

■ [IREX](#)

■ [Organization for International Migration](#)

■ [Oxfam](#)

■ [Relief Web Job Compendium \(UN OCHA\) \(1\)](#)

■ [Relief Web Job Compendium \(UN OCHA\) \(2\)](#)

■ [Save the Children](#)

■ [The Development Executive Group job compendium](#)

■ [Trust Africa](#)

■ [UN Jobs](#)

■ [UNDP](#)

■ [UNESCO](#)

■ [UNICEF](#)

■ [World Bank](#)

■ [World Wildlife Fund \(Cameroon\)](#)



Please feel free to send your comments, feedback and/or suggestions to Cosmas Gitta
[cosmas.gitta@undp.org] Chief, Division for Policy, Special Unit for South-South Cooperation